THE VETERINARY RECORD

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Mr. Chaplin and Udder Disease.

Since the report of the Royal Commission was issued in 1898 a great amount of interest has been taken in milk and its possible contamination by tuberculosis in the cow.

Under the Dairies, Cowsheds, and Milkshops Order provision is made for inspection by local authorities, and the consumer of milk is guarded against the danger of infection through human agency from such diseases as scarlet fever and diphtheria. He is also protected against the risk of infection through the milk by cattle-plague and pleuro pneumonia, Section 15 states—"if at any time disease exists among the cattle in a dairy or cowshed, or place, the milk of a diseased cow therein (*a*) shall not be mixed with other milk, (*b*) shall not be sold or used for human food."

It has often been erroneously supposed that this section gave all the necessary powers to local authorities to prevent the sale of milk from tuberculous cows. Almost the only disease of cows which may, through milk, infect human beings is tuberculosis, and the reference in the section to "diseased cows" would apparently prevent the use of their milk. On this view the Report of the Royal Commission says: "But the term "disease" in the Order is strictly limited to those diseases included under the Contagious Diseases (Animals) Act, 1878, of which tuberculosis is not one. The evidence abundantly shows how this fact has precluded local authorities from any attempt to deal with tuberculosis in milch cows."

Here then is recognition of a public danger, and of the method by which it could be checked. Milk from a tuberculous udder is a virulent poison. The Milkshops Order is inoperative because tuberculosis in cattle is not scheduled by the Board of Agriculture. Confessing all this the report continues—"While your commissioners think it is desirable that the Order should be made applicable to all diseases of the udder in cows of which the milk is offered for sale, we are of opinion that it would be best for this to be effected without a change in the nomenclature of the Diseases of Animals Act, an Act which is concerned solely with the spread of disease from animal to animal, and not from animal to man." This sentence seems to ignore the fact that the Diseases of Animals Act is concerned with rabies almost entirely on account of the spread from animals to man. Of course the writer knew better, and only used the phrase to cover some other difficulty. The fact is the Board of Agriculture have the power to schedule tuberculosis, and so make the Dairies and Milkshops Order a useful and intelligible document. The Board declines to use its power under the notion that a good deal of its duties may, by a little manœuvring, be placed upon the shoulders of the Local Government Board, and that if once tuberculous meat and milk are got rid of by some pretence of legislation to protect man, the public will forget the disease of cattle and the Board of Agriculture will not be compelled to do anything.

Mr. Long's masterly inactivity, and the agitation of medical officers, coupled with applications from Local Authorities, have driven Mr. Chaplin to attempt the impossible. The Milkshops Order is governed entirely by the Act under which it was issued. It first appeared as an Order of the Privy Council. It was then transferred to the Local Government Board, but the powers remained the same, and Section 34 of the Contagious Diseases (Animals) Act of 1878 says, referring to Dairies, Cowsheds, and Milkshops: "The Privy Council may from time to time make such general or special orders as they think fit, subject and according to the provisions of this Act, for the following purposes etc." Now the Act has a provision defining the meaning of its words. "Disease" is defined by enumerating the diseases which are to be included, and there is no tuberculosis mentioned. Power is given to add other diseases, but that power is not given to the Local Government Board. It is possessed by the Board of Agriculture

The new order of the Local Government Board runs thus—"Article 15 of the Order shall be altered so that for the purposes of the provisions of paragraphs (a) and (b) thereof the expressions in the said article, which refer to disease, shall include in the case of a cow, such disease of the udder as shall be certified by a veterinary surgeon to be tubercular."

The wording of the paragraph is about as involved as it possibly could be, and strengthens our conviction that the draughtsman felt the danger of making it plain. The Local Government Board have nothing to do with the diseases of animals, except through the powers transferred to them under the Contagious Diseases (Animals) Act, and yet here is a vaguely-worded Order which attempts to make tuberculosis "a disease," when it happens to have affected the udder of a cow.

We certainly have no desire to see tuberculosis in cows left unnoticed, but this miserable order may be used as an excuse for not doing what is really necessary. Tuberculous udders are scarce, and he would be a bold veterinary surgeon who cared to diagnose most cases without the aid of tuberculin, power to use which is not given. If diagnosis be made by examining the milk weeks will be required to establish a certainty. Generalised tuberculosis in cows is not uncommon. Such animals may remain in a cow-shed emitting the tubercle bacilli per gullet and intestine, but Mr. Chaplin's order cannot touch them.

At best the order is permissive, and out of the 400 and odd local authorities who may enforce it, how many will act?

The intricacies of the law are such that our interpretation of the Act, which gives force to the Milkshops' Order, may be erroneous. There may be some word or clause which permits the intention of the legislature to be evaded. Until we have this disclosed we shall continue to believe that Mr. Chaplin's order is *ultra vires*, and binding on no one.

The Local Government Board can never protect man from the danger of tuberculous animals. This can only be achieved by the Board of Agriculture attacking the disease at its source.

CASES AND ARTICLES.

A SEQUEL TO BLISTERING.

By F. H. Gibbings, F.R.V.C.S., Nottingham.

Grey hackney mare, five years old, admitted in infirmary a few months since, lame in the off fore limb, been so for about three months; treated unsuccessfully up to that time. The limb was cooled with warm fomentations and cooling lotion, and after the lapse of a few days, she was blistered around the coronets. This was repeated in about a week or ten days time, and the owner happening to call a few days after, she was trotted out and went quite sound. I then told the owner she was perfectly fit to go home, however, he said, to make assurance doubly sure I had better blister her again; this was done after a few days time, on a Thursday, the mare went very well until the following Sunday, when my attention was called to her, she presented all the symptoms of acute blood poisoning, her head and all her limbs were immensely swollen, circumscribed swellings all over her trunk, mostly in dependent positions, ecchymosis of the membranes of the eye and nose, accompanied by a profuse bloody discharge, great difficulty of breathing and total loss of appetite. Diagnosed the case as one of cantharides poisoning, but could discern no sore on the pastern, not even a scratch; the swellings were well fomented and belladonna liniment applied, and iodine was exhibited internally. This was persevered with for a few days, breathing was relieved, the appetite returned, but many troublesome sores appeared, more particularly about the head, the knees and the hocks, and eventually in the heels; these were treated with various antiseptic dressings, and after the lapse of a few weeks she made a very good recovery. There are some very ugly cicatrices in various parts of her body, the only remnants left of her serious illness. She was turned out at grass for about three months, and is now up and working as well as ever.

IMPERFORATE OS, OR ATRESIA VAGINA.

This peculiar abnormality is so rare, and as I do not remember seeing a case described, the following may be of interest.

On February 7th I was requested to attend a three-year-old heifer that had been already a week ailing. I got the following history: This three-year-old white heifer, one of a fat lot, was noticed wrong on February 1st. She was taken to the farmyard and received a physic of salts and oil. She did not improve, but rather got worse, straining constantly, losing flesh and appetite.

I found the heifer in a loose-box, she seemed excited, her pulse was somewhat fast, her temperature normal. She strained violently and persistently, drops of urine dripped from the vulva, and the attendant said she had not been noticed to urinate during the past week. Considering that she had been a week ill, and had had physic, she looked rather full. I thought she might be suffering from retention of urine. On examining, per rectum, I could feel a balloon-like mass, apparently occupying the whole pelvic cavity. With some difficulty I passed a catheter and withdrew a very great quantity of urine, but this did not seem to give relief. I could still feel the balloon-like body, per rectum. On attempting to examine per vaginam I was surprised to find there was no passage to the uterus. I explored carefully and decided there was no passage. I could feel a tough tense membrane press against my fingers, about 10 inches from the vulva. I used considerable pressure, which the heifer greatly resented, and eventually with the aid of a blunt probe I burst through the membrane. A clear syrupy fluid, slightly tinged at first with blood, flowed away to the amount of about 3½ gallons. The heifer then seemed at ease. She was fed for some days on gruel and flaxseed, and rapidly recovered her normal condition.

The owner tells me she is now quite well. How long could she have gone without treatment? or would the membrane ever burst of its own accord? The uterine fluid must have been accumulating for about two years.

P. J. Howard, M.R.C.V.S.

Ennis.

THE ETIOLOGY AND PATHOLOGY OF SPAVIN.

By M. Barrier, Alfort.

Read before the Central Veterinary Medical Society of France, May 26th, 1898.

(Abstract.)

(*Continued from p. 543.*)

The movements of the small bones of the hock are not however of the simple nature that I have endeavoured to describe above. The contact of the limb with the ground gives a compound rotary motion with a lateral inclination, and pressure (bascule) from behind forward. These movements are very slight, in fact almost imperceptible, and the weight of the body with quick movements such as galloping and jumping is required to bring them into play, but it cannot be denied that they exist.

These movements are necessary to counteract the locomotor shock, and when they become restricted or cease to exist from anchylosis or other causes, extra strain is put on the other joints, the hock is not able properly to perform its functions or resist the effects of violent or rapid movements.

I think I have clearly shown the importance I attach to integrity of the articulations of the small bones of the hock, and how I consider as accidental or pathological and often preventable the non-congenital synostosis which is sometimes observed in connection with these structures. As to the congenital union of the 2nd and 3rd cuneiforms it is common enough to permit one to suppose that it takes place simultaneously with their growth, and according

to M. Joly it is of more frequent occurrence than formerly. (1).

The relationship existing between most of the ligaments, both superficial and deep seated, and the synovial membranes of the articular surfaces should be noticed, as a lesion of one of these ligaments can early involve the synovial membrane either directly or through the medium of the bony tissue into which it is inserted. It should also be remembered that the termination of the flexor metatarsi tendon practically is a ligament in as far as its relations with the bone and synovial membranes in its neighbourhood are concerned.

All these facts lead one to conclude that the bones and ligaments exercise an inhibitory action (if the term may be used) to the shock or concussion of locomotion as well as the propulsive effort itself, and the force or shock of the concussion is diffused over all the small bones of the hock by means of the motion that exists, owing to their articular surfaces. It will therefore be readily seen that if the motion of one articulation is destroyed or diminished a corresponding degree of extra work is thrown on the others that remain intact, as for example if there is chronic synovitis of the tibio astragalean articulation which decreases its degree of motion, the neighbouring articulations from the extra strain put on them will become involved, and anchylosis of the scaphoid and cuneiform bones will supervene on over extension of the astragalo scaphoidian interosseous ligament.

Everything being equal, the work done and the strain endured by the bones and ligaments is directly proportionate to the duration and violence of the propulsive effort, and this accounts for the predisposition to contract spavin of horses used for quick work, such as hacks and hunters, and in draught horses, those that draw heavy loads.

It must also be remembered that during youth both the soft and bony tissues of the skeleton have not the degree of mechanical resistance they acquire in adult life, and being in an embryonic or formative stage they are particularly prone to inflammatory changes from causes that in the fully grown animal would produce no effect, and this is the reason why young animals are particularly liable to diseases of the locomotory system.

Primary Lesion of Spavin.

The effects of violent locomotive force are, however, seen frequently in well-formed limbs, and hence it stands to reason that this cause is much more likely to be injurious to defective ones, such as are badly proportioned, have weak articulations, badly developed muscles and tendons, and disproportion between the fore and hind legs.

The bones possess a greater power of resistance to the strain of locomotion than the soft tissues, the ligaments stretching and partially rupturing before the bones when submitted to the same degree of tension, and, excepting fracture, the bones can withstand without becoming inflamed all the strain which, in mechanics, is known as "the quantity of movement," provided always that the joints act properly. If this is not the case they are no longer in a condition to meet the locomotor shock, and become contused, congested; and serious nutritive lesions are the consequence.

I would particularly invite your attention, gentlemen, to this point, viz., that a ligament will succumb to a strain before a bone will. The function of ligaments is not merely to keep the bones in their place, but they also limit their motion, and it is by this motion that the "quantity of movement" is diffused over the entire joint, and on the integrity of the joint and ligaments depends the freedom from injury of the bones during violent propulsive efforts. If this integrity is deranged the bones will not long resist the effect of the strain and shock of locomotion.

Even admitting Eberlein's theory, that the primary lesion is ostitis, or Joly's, that a lesion of the articular surface is the origin of spavin it will not explain why the other bones and articulations besides that of the hock are not injured when subjected to the same causes. It would, therefore, seem that an error has been made in overlooking the part that over-extension of the ligaments plays in the formation of spavin.

Secondary Lesions.

The results of strain or rupture of ligaments manifest themselves in the soft structures, bones, periosteum, synovial membrane and articular surfaces in the neighbourhood, and give rise to those lesions that are commonly described by writers on the subject.

1. *The Soft Structures.*—At the seat of the injury is seen ecchymosis, infiltration and swelling, loss of consistency, a change in the colour and an alteration in the opalescent appearance of the fibres; with a greater or lesser degree of cell proliferation. This is followed by induration and total or partial ossification of the structure.

2. *The Bones.*—The seat of inflammation is generally at the point of attachment of the ligaments. In a fresh specimen in which the bones have been separated this can be detected by the finger at the point where the ligaments have been torn apart. It can, however, be more clearly seen in a boiled or macerated bone. The point of insertion of the ligament, instead of having clean cut edges and a smooth cup, is rough, covered with spicules, and the edges irregular and tending to encroach on the articular surface. According to the length of time the lesion has existed the bone will be more compact or more porous than natural (Fig. 6). Under the microscope, in the earlier stages there is seen to be rarification of the bony tissue, which runs on into osteoporosis, accompanied with increased vascularity of the parts that have been directly submitted to the strain; abundant proliferation of the medullary cells, and an irregular absorption of the walls of the Haversian canals, the calibre of which are increased in a correspondingly irregular manner. This is succeeded by a second or recuperative stage in which the bony tissue becomes dense and compact, and the canals of the haversian system by this reparative process are extremely irregular.

(1) Etudes Cliniques. *Revue Vétérinaire de Toulouse*, Aug., September, October, 1897, by G. Joly. Sur la Solipedisation des Equidés dans les temps actuels.—*Bulletin de la Société Centrale Vétérinaire*, Feb., March, and April, 1898.

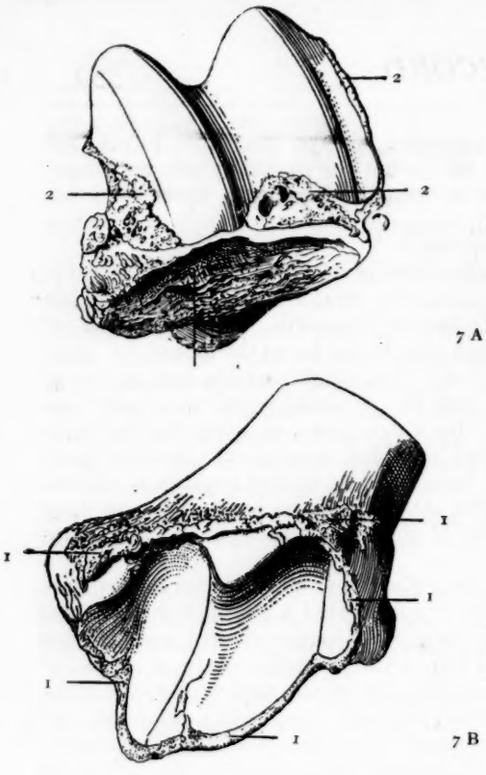

Fig. 7.—*Marginal lesions of the tibia and astragalus,*[1] *following arthritis of the astragalus and scaphoid.*

A.—*Antero-inferior view of the astraglus*, showing profound alteration of the articular surfaces of the astragalus and scaphoid (1) and marginal vegetations on the periphery of the surface of the astragalus (2, 2, 2.)

B.—*View of the tibial articular surface*, with marginal lesions (1, 1, 1, 1, 1.) at the points of insertion of the synorvial membrane.

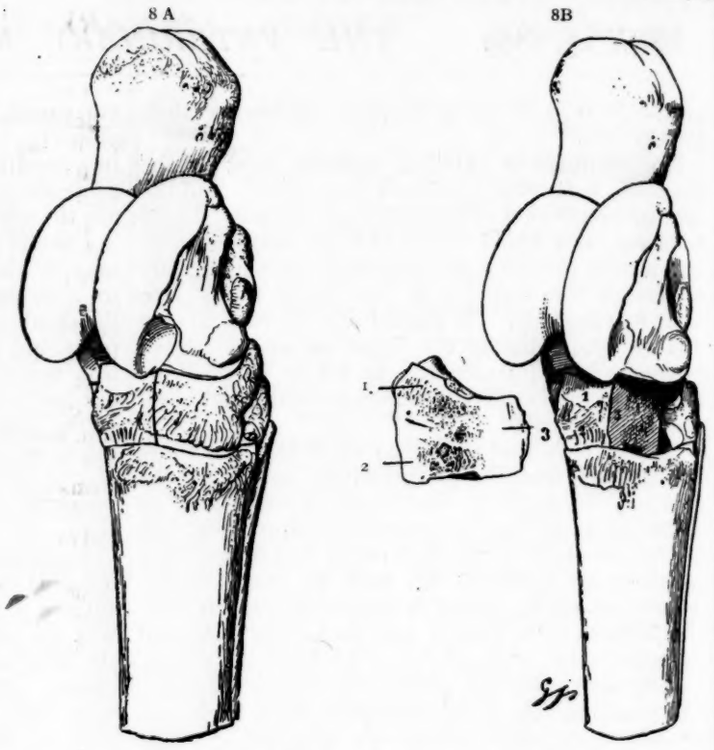

Fig. 8.—*Example of "invisible" or occult spavin, that to say without any apparent deformity.*

A.—*Antero-internal view of the tarsal bones.*

B.—*The same, with section of the scaphoid* (1) *and large cuneiform* (2), showing peripheral and central anchylosis of these bones (3).

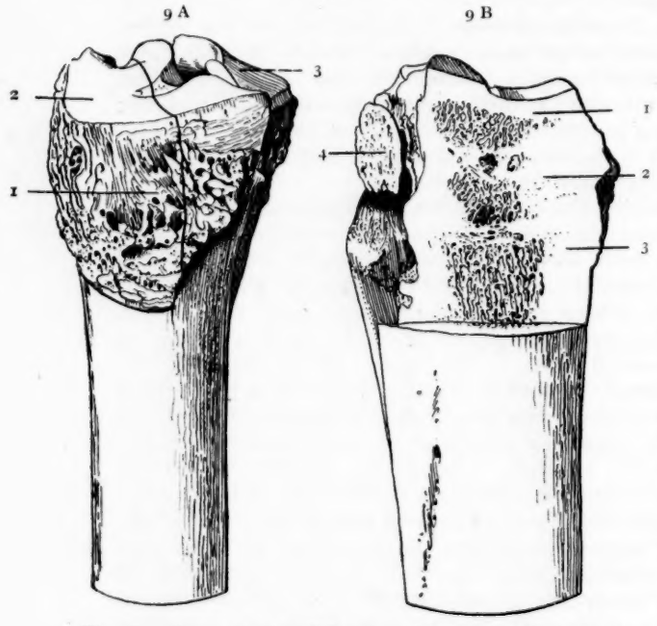

Fig. 9.—*Example of peripheral and central anchylosis with slight external deformity.*

A.—*Part view of face*, showing peripheral anchylosis with its superficial tarso-metatarsal vegetations (1) and the intact scaphoid and cuboid surfaces (2 and 3.)

B.—*The same, divided in its centre and from before to behind*, showing peripheral and central anchylosis of the scaphoid (1) large cuneiform (2) and principal metatarsal (3) behind, section of the small cuneiform (4).

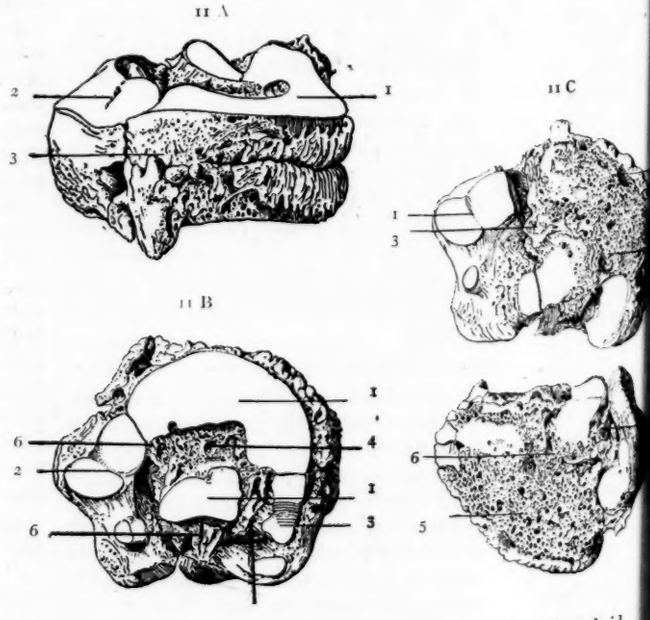

Fig. 11.—*Example of severe scaphoido-cuneal arthritis, showing osteo-porous alteration of surfaces consecutive to peripheral anchylosis of this articulation.*

A.—*Antero-superior view* of scaphoid (1) and of the cuboid, (2) intact with (3) the vegetations of peripheral anchylosis.

B.—*Inferior view.* 1 Large cuneiform, 2 Cuboid, 3 Small cuneiform; field of insertion of the cuneo-metatarsal ligament, diseased, 5 Ossification of the intercuneal ligament, 6 Ossification of the cuboido-cuneal ligament.

C.—*Internal view of the scaphoido-cuneal joint.* 1 Cuboid, 2 Scaphoid, of which the articular surface is the seat of intense osteo-porosis, 3 Ossified cuboido-scaphoidal ligament, 4 Ossified scaphoido-cuneal ligament, 5 Large cuneiform with intense osteo-porosis, 6 Ossified cuneo-scaphoidal ligament, 7 Ossified intercuneal ligament.

3. *The periosteum.* Superficial periostitis causing osteophytes, sometimes of a large size, is present. These growths sometimes invade the adjoining connective tissue, gradually causing it in its turn to thicken, indurate and ossify. This gives rise sometimes to great deformity that interferes with the motion of the joint.

4. *The synovial membranes.* There is synovitis, which is at first confined to the points of insertion of the injured ligaments. This is not so well marked in the lower joints of the hock as in the upper. Contrary to the experience of Eberlein I have found in the tibio-astragalean articulation cicatrices and traces of old injuries, the fringes being hypertrophied villous, and very irregular in shape and size. They are rich in capillaries, and almost entirely formed of embryonic tissue.

The synovia is always scanty in quantity, and a little thicker in consistency and darker in colour than natural. Eberlein has studied it bacteriologically but has never discovered a microbe.

5. *The articular surfaces.* The alterations found here are always secondary, and are generally very serious. They are generally symmetrical on the two surfaces that are in contact with each other. They are usually the sequel of subjacent ostitis, or synovitis of the fringes. The ostitis that exists interferes with the nutrition of the cartilage, causing a greater or lesser degree of chondritis, that has been well described by Cornil and Ravier. This extends into the deeper layers of the underlying substance perpendicular to the surface, and produces the well-known velvety appearance, which is greatly prone to spread. Round the margins of the cartilage there are frequently large irregular growths (ecchondrosis) that receive vessels from the subjacent bone and which become partly ossified. (*Fig. 7.*)

When the bone is denuded of cartilage the supervening ostitis sometimes gives rise to anchylosis, more or less complete (*Fig. 8. B.* 3.) of the two surfaces of bone that are in contact, by anastomosis of the Haversian systems at the diseased parts. Sometimes it causes a more or less destructive osteoporosis (*Fig. 11 C.*) Sometimes the reparative or secondary stage, in which there is condensation of the bony tissue, causes smooth, laminated irregularities on the articular surface which work into or dovetail into the opposing articular surface, but without anchylosis. (*Fig. 12 A & B.*) And lastly this hardening and condensation may be in the form of plates over the denuded surface where the degree of motion is not very great, or if it is as in the tibio-astragalean joint they may take the form of lines or ridges. (*Fig. 14*).

From the preceding description it will be gathered that spavin is progressive anchylosis, almost invariably causing deformity. The anchylosis results from the thickening, induration, and ossification of the soft structures, both surface and deep; and under such conditions it can be classed as peripheric as it immobilises the surface of the articulations. (*Fig. 8 and 9*). Exostoses, which sometimes grow to a very large size, are in this class, which is frequently succeeded, especially in the sub-astragalian bones, by centrical anchylosis and which causes union of the articular surfaces. (*Figs. 8 and 9.*)

If there is any deformity it is caused by superficial peripheric anchylosis originating in the periosteum, but it may be altogether absent or so slight as to escape notice. It then is what can be classed as invisible spavin, or spavin without a tumour (*Fig. 8.*)

Arthritis that may be present is a sequel to spavin and is not a primary lesion as Joly considers it is. I have also shown that ostitis cannot be looked on as a primary morbid phenomenon of spavin, as Eberlein thinks it is, except as resulting from over extension of the ligaments, or a symptom of over exertion of a joint, such as would follow arthritis in a neighbouring one, or loss of function in an adjacent articulation, such as chronic synovitis of the tibio-astragalean. Before affirming that spavin commences from ostitis or arthritis all the small bones of the hock would have to be macerated and carefully examined, and except in cases of direct injury it will be found that arthritis arises from either an old lesion of the ligaments or in anchylosis "either central or peripheric" of one of the lower small articulations of the hock joint.

(*To be continued.*)

ABSTRACTS FROM FOREIGN JOURNALS.

PROLAPSUS OF THE RECTUM IN THE DOG: NECTOPEXIA.

Professor Liénaux employed the method adopted by the translator (*vide Veterinary Journal* and *The Veterinary Record*) in a case of persistent prolapsus of the rectum to return and maintain this viscus in its proper position after other procedures failed. It consisted of opening the abdominal cavity, drawing the gut into the cavity and suturing it, by passing a suture through the serous and muscular coats of the bowel, to the abdominal wall.—(*Annales de Médecine Vétérinaire.*)

TREATMENT OF LAMINITIS BY HYDROBROMATE OF ARECOLINE.

Schumacher, veterinary surgeon at St. Gilles, Belgium, had eight remarkable recoveries from severe cases of laminitis so that the majority were put to work in less than a week. In one case in which all four feet were severely affected recovery was obtained within twelve days; and, in another which had been suffering for several weeks success was obtained after fifteen days rest. The author injected for four or five days doses of 10 centigrammes of hydrobromate of arecoline dissolved in 5 grammes of water. He also copiously bled in recent cases. (*Annales de Médecine Vétérinaire.*)

British veterinary surgeons seem to be silent upon this method of treatment of laminitis.

The *abnormal odour of veal*, pointed out by Morot, arising from the calf having been the bearer of a quantity of *ascarides* is said by M. Lambion to have been frequently observed by him in the Foix abattoir.

H. G.

VETERINARY SOCIETIES.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

The thirty-seventh annual meeting and dinner was held at the Grand Hotel, Manchester, on Friday evening, February 24th, 1899.

In the unavoidable absence of the president, Mr. J. McKinna, through indisposition, Mr. J. H. CARTER occupied the chair, and about 50 members and guests were present, including Professor Williams (Edinburgh), Mr. A. W. Mason (president of the R.V.C.S.), Dr. Niven (Medical Officer of Health, Manchester), Dr. Annis (Medical Officer of Health, Huddersfield), Dr. Young (Crewe), Sir William H. Bailey, Mr. S. Smelt (City Coroner), Colonels Duck and Lambert, and Mr. H. Locke (hon. sec.).

Letters were received, regretting their inability to be present, from Professors MacFadyean, McCall, Penberthy, Young, Dewar, Axe, and Macqueen, and Messrs. Malcolm, Taylor, Gooch, and McCarmick.

Mr. CARTER, referring to the president's absence, said he would like to propose that a letter of deep sympathy be sent to him, and the proposition having been seconded by Mr. FAULKNER, was carried unanimously.

ELECTIONS AND NOMINATIONS.

The following gentlemen were elected for membership:—Mr. W. H. Bartrum, M.R.C.V.S., Manchester; proposed by Mr. Faulkner and seconded by Mr. Samuel Locke. Mr. H. Bibbey, M.R.C.V.S., Kingsgrove, Stoke-on-Trent, proposed by Mr. H. Locke and seconded by Mr. Carter. Mr. J. Clarkson, M.R.C.V.S., Garforth, Yorks, proposed by Mr. Wolstenholme, seconded by Mr. Abson, and supported by Mr. Faulkner. Mr. Andrew K. Hart, M.R.C.V.S., Manchester, proposed by Mr. H. Locke and seconded by Mr. Wolstenholme and Mr. T. Parker, M.R.C.V.S., Whitchurch, proposed by Mr. A. Dawson and seconded by Mr. Stothart.

Mr. CARTER nominated for membership Mr. Wharam, M.R.C.V.S., of Leeds, and Mr. Faulkner nominated Mr. Armstrong, M.R.C.V.S., of Penrith. Mr. Carter announced that owing to Mr. McKinna's absence the presidential address would not be read.

THE LEEDS CORPORATION BILL.

Mr. A. W. MASON drew attention to the Leeds Corporation Bill, 1899, which proposed to confer on the Medical Officer of Health for Leeds, or any person acting under his orders, power to enter any byre, cowshed, or dairy farm within the city of Leeds, or wherever situated, if the milk produced therein or supplied therefrom is being sent for sale within the city, and apply the tuberculin or other reasonable test to any cow kept therein for the supply of milk, in order to determine whether such cows suffer from any disease which might render the use of the milk dangerous or injurious to health. It would, he said, be noticed that the person deputed by the medical officer to apply the test need not be a qualified man. A small deputation of the Yorkshire Veterinary Medical Association waited upon the Leeds Corporation a few days ago and stated their case, showing the condition of the profession at the present moment and other qualifications, and drew the Corporation's attention to the particular clause in the Bill, but they gave them nothing very favourable. He simply brought this matter before the Lancashire Association to ask for their help to combat the drastic conditions contained in the clauses in the Bill. After some discussion, Mr. Carter suggested that a speciai meeting be convened to consider the question.

DINNER.

The CHAIRMAN submitted the toast of "The Queen," it was drunk with musical honours, the company joining in singing the National Anthem.

The CHAIRMAN next proposed "The Prince and Princess of Wales and the rest of the Royal Family," and this was also honoured with enthusiasm, followed by the singing of "God bless the Prince of Wales."

Mr. J. C. L. JONES, in a suitable speech, proposed "The Navy, Army, and Auxiliary Forces."

Colonel DUCK, in reply, said the toast of the Army, Navy, and Volunteers was always well received. The army was a small one, but lately steps had been taken to increase its numbers. It had serious duties to provide against abroad, practically over half the world—and had also to be a safeguard at home. Of late years it had advanced considerably, especially in the education and training of officers, and he could say that it was advancing with the times. This could also be said of the Army Veterinary Department—in fact, that section liked to be a little ahead of the times. The department had been tried in the campaigns on the Indian Frontier and in the Soudan, and had come out of them very satisfactorily and creditably to the veterinary profession. He was glad to see that the officers in the army were joining the Veterinary Medical Associations wherever they could, because they would derive professional information from them and a good feeling would be engendered. As to the Navy, it was the most powerful and most efficient in the world, and continental nations knew it equally well. With regard to the Volunteers, they were the very best material the country could produce, and the country ought to be thankful to and proud of them. They were the keenest of soldiers, and he felt sure that should circumstances necessitate their services in defence of the country they would acquit themselves with credit and success.

Colonel LAMBERT: Colonel Duck has said so much that he leaves me very little to say. I can only speak as a very old member of this Society—I do not know how many years I have been in it, but I have always looked upon it as one of the pioneer societies, which have done a great deal to advance our profession, as you all know. As to the Army, Navy and Volunteers, all I can say is that the Navy comes first. We have the most magnificent and most powerful navy in the world. If we ever have trouble in any part of the world the knowledge that a British man-of-war has turned up satisfies us and we know that nothing will go very wrong with our trade, or our empire. With regard to the army, I have been in it a considerable time, and I am extremely proud of it and of my connection with it. You all know that the British soldier does his duty—that he gives his life, health, and utmost energies to the good of his country, and that if any battle is going on he will acquit himself quite as well as ever a Roman soldier did. Respecting the Volunteers, I think we ought to have the greatest admiration for them. They give their time and a great many of them their money, and in a time of need they would be found ready to defend their country.

Veterinary-Lieut. H. C. HARRISON also responded. Though only a new member of the Volunteers, he quite agreed with Colonel Duck that it would impress any civilian who joined the volunteer corps to see the enthusiasm displayed by officers, non-commissioned officers and men. Should opportunity ever occur for the volunteers exhibiting their skill they would do their best, like Englishmen.

The musical part of the entertainment was in the very capable hands of the "Doric Quartette" whose performances earned for them the warmest appreciation.

Mr. E. FAULKNER proposed "The Medical Profession," remarking that it was a noble vocation and one which played a very important part in the national welfare,

and they, as veterinarians, admired and strove to emulate it. After paying an excellent tribute to the ordinary medical practitioner, he referred to the cordial relationship which at present existed between the professions—particularly so in Manchester—and this had been amply demonstrated at the great meeting which was held in Marlborough House, under the presidency of His Royal Highness the Prince of Wales, when eminent members of both professions were found united in one common cause—that of dealing with tuberculosis. That was an object lesson, and Sir William Broadbent's address was, he thought, the most comprehensive, forcible, and beautiful address he ever read on the subject. This was, undoubtedly, a step in the right direction for the veterinary profession, but he was pleased to say not the only step, for they were promised by Mr. Chaplin that he intended to issue an order (which had been advocated in season and out of season by them) extending the definition of "disease" in the Dairies, Cowsheds, and Milkshops Order of 1885, so as to include in the case of a cow such disease of the udder as shall be certified by a veterinary surgeon to be tubercular, and this, Mr. Chaplin said, would have the effect of prohibiting the milk from such cows being mixed with other milk, and from being sold and used for human food. In connection with this matter, great credit was due to Dr. Niven for his magnificent paper to the Sanitary Institute of Birmingham, in which he told the Institute that he believed the inspector of meat ought to be a veterinary surgeon who was educated in the inspection of meat, and that there ought to be established a Veterinary Public Health Department. He quite agreed with Dr. Niven, and there was no reason why the veterinary profession should not be able to meet that want, as their students were now taught meat inspection in addition to their ordinary education as veterinary surgeons. He asked them to drink to the health of the medical profession, associating with it the names of Drs. Niven, Annis, and Delépine.

Dr. NIVEN, in reply, thanked Mr. Faulkner for the eulogistic terms in which he had spoken of the medical profession, but though he could not accept all the encomiums he gladly accepted the good feeling expressed. It was true that the relation of the general practitioner to his patients called not only for extraordinary ability but for the exercise of all the finest faculties of the man outside his professional knowledge—also for the greatest amount of tact and sympathy, but he did not think the veterinary profession need consider that they had not a sufficient field in that respect, for they had the whole range of the animal kingdom to deal with. The veterinarian who understood his profession sufficiently well to be able to diagnose (as only a well-educated man—a pathologist—could) from what disease an animal was suffering, and to relieve it in the best and kindliest possible manner, could do as great work in his way as the medical man. He (Dr. Niven) tendered his great gratitude to the veterinary profession for their assistance to the medical profession in their recent campaign over the milk question. He quite agreed with Mr. Faulkner that the veterinary profession were entitled to congratulate themselves upon Mr. Chaplin's announcement. He expressed what he thought the medical profession felt generally the greatest hopefulness of the advancements which veterinarians were now rapidly making, and the hope that the former would have beside them in all public matters another strong, well-educated, well-organised body of professional gentlemen who would work hand in hand with them.

Dr. ANNIS also responded.

Dr. DELÉPINE submitted the toast of "The Royal College of Veterinary Surgeons," remarking that the present history of the veterinary profession was, perhaps, one of the most important items in its development as a whole. There was a tendency, too, for the profession to improve in all sorts of ways. The Colleges, at very considerable sacrifices, were trying to provide for students entering the profession, means of education which were parallel to those given to the medical profession. The curriculum had been increased and the teaching instruction given to the students was quite of the highest kind. The public health required that the state of the cattle and other domestic animals should be watched over very carefully, and for that reason it was necessary that the medical profession belonging to the public health service should ask the assistance of the veterinary profession, therefore, if not this or next year still within a short period, some veterinary public health service would have to be considered. Several of his medical confrères had for a long time foreshadowed this state of things, and it must have been apparent to the veterinary profession also. They would find that the medical profession would assist them in every possible way in obtaining this recognition. The medical profession had the highest appreciation and admiration of them, and keenly felt the need of their co-operation.

Mr. A. W. MASON acknowledged the toast.

Mr. J. ABSON, in a few well-chosen remarks, proposed "The Visitors," coupling with it the names of Sir William H. Bailey, Mr. S. Smelt, and Mr. Hurndall.

Sir WILLIAM BAILEY expressed his indebtedness for the handsome way in which they had received the toast, and emphasized the necessity for the co-operation of the veterinary surgeons with the medical officers of health in the country in order to improve the health of the people.

Mr. S. SMELT said he was proud to be a guest of the Lancashire Veterinary Medical Association, and pleased that the veterinary profession was taking the position which it ought to have done years ago. He quite endorsed Sir William's remarks about the important part which veterinary surgeons played in the food supply. The public looked to the veterinary profession to keep the food supply as untainted as it was possible for scientific knowledge to keep it.

Mr. HURNDALL also responded.

The CHAIRMAN submitted the toast of "The Veterinary Schools," adding that they had, unfortunately, for the last few years suffered owing to the extension of the curriculum to four years. There were four teaching schools in the kingdom, three of which were independent of any aid. Two were entirely private enterprise—one at Edinburgh and the other at Glasgow—and it was said a few years ago that these would have to close their doors when the four years came in, but he was proud to say that the doors were still open, and so long as they were presided over by two such eminent professors as the "evergreen" Professor Williams and Professor McCall he felt sure that they would still keep the doors open and prosper. He asked them to drink the toast with enthusiasm, coupled with the name of Professor Williams.

Professor WILLIAMS, responding, said he quite agreed with the sentiments expressed in regard to the veterinary profession, but matters had arisen which, he thought, was calculated to retard the progress of the profession. His son's proposal (which was endorsed by him) at the last meeting of Council of the Royal College to institute an extra degree in public health for members of the College had certainly brought them into disrepute, for they had heard that their popularity amongst veterinary surgeons had suffered to an enormous extent, and that their action would be damaging to their schools. It was gratifying to him to see so many of his students at the top of the tree, and being honoured and respected by members of the medical profession.

Mr. J. B. WOLSTENHOLME, in the absence of Mr. Hopkin, who was unfortunately indisposed, submitted the toast of the "Board of Examiners." This, he said, was one of the most important posts in the veterinary pro-

fession. It could not be denied that the enhanced entrance examination, and the prolonged period which students had to pass at College in order to qualify for the examinations was a distinct gain to the profession, but standing between the curriculum and the profession was the Board of Examiners, who had to see that a student possessed at least the minimum attainment of qualification in the various subjects, and who had to be firm in their decision as to the adaptability and practicability of the students under examination, as also the appearance they would make when entering upon their duties. There was a practical part in the examination, and if a student, however good his training in other sections of the curriculum, did not know sufficient of this most necessary adjunct it was the duty of the examiners to ask that student to return to College and learn such qualification. He was not pleading for any leniency on behalf of the examiners, but putting before the members something which appealed to the examiner essentially as a safeguard to the public and as a safeguard to the student. It would be painful, indeed, for that student, when he entered the profession, to at once damage his reputation in the eyes of his clients, and not only to damage himself but prejudice the profession generally. All that he (Mr. Wolstenholme) wished to enforce was the necessity for the profession to uphold the examiners in their decisions, and to appreciate in a friendly spirit the care and anxiety taken in coming to those decisions. So much had been said of very vital importance to the veterinary profession that it had taken largely from what he wished to have said, but he was and had been anxious for many years that the veterinarian should take more part in the general interests of the community. They were too much restricted to the routine duties of their calling and had taken too little part in municipal affairs, and if they did not, more or less, enlarge their interests in general and scientific affairs they would not be recognised by the public so rapidly and so fully as they otherwise would be. In this district the medical officer had amply recognised their ability to help in matters of public health, and he believed that if in other districts veterinary surgeons would associate with the Medical Officers of Health, and with the various scientific and literary societies they would in that way become recognised, not only as being those who had a special knowledge of the diseases of animals but those who, if allowed to put that special knowledge to the safeguarding of the health of the community, would give valuable assistance. He asked them to drink to the health of Examiners, coupling with it the names of those present.

Mr. Wm. Woods (Wigan) responded.

The Chairman then proposed the toast of "The President of the Lancashire Veterinary Medical Association," expressing the sincere hope that he would speedily recover from his severe indispostion.

Mr. A. P. Allen, A.C.A., gave "The Ladies," and the singing of "God save the Queen" brought a most enjoyable gathering to a close.

WESTERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

The sixteenth general annual meeting was held at the New London Hotel, Exeter, on Thursday, March 16th. Mr. F. J. Harvey, of St. Columb, presided, and there were also present Messrs. W. H. Penhale, Holsworthy; R. E. L. Penhale, Torrington; J. P. Heath, Exeter; C. Parsons, Launceston; P. Bond, Plymouth; W. Ascott, Bideford; A. J. Down, Sampford Peverell; F. P. Collings, Plymouth; W. B. Nelder, Exeter; Elder, Taunton; J. R. Sydney Pethick, Plymouth; E. W. Bovett and J. Dunstan (hon. sec.) St. Mellion.

Letters were announced from the following members who were unable to be present: Messrs. C. Hoadley, Helston; Roach, Exeter; Thorburn, Okehampton; Olver, Truro; Penhale, Barnstaple; Oliver, Devonport; Prof. Pritchard and others.

The Hon. Treasurer's Statement.

The Hon. Treasurer (Mr. W. B. Nelder) presented the annual statement of accounts. He explained that the expenses of the year had been unusually heavy, nearly £40, half of which was on account of the sending of delegates to the Dublin Congress on Tuberculosis. Still, the Association had a balance in hand of £24. In answer to Mr. Bloye, the Hon. Treasurer said there were about eleven guineas due as subscriptions, which would bring the balance in hand up to £36.

President and Vice-Presidents.

Mr. Elder (Taunton) moved that Mr. W. Penhale, of Barnstaple, be the president of the Association for the ensuing year. No one, said Mr. Elder, had done more for the Association than Mr. Penhale; he was in fact its founder, and during the coming year, which would be exceptional on account of the visit of the National Association, he would be just the man to fill the chair. (Applause.)

Mr. Parsons (Launceston) seconded the motion, which was supported by Mr. Bond (Plymouth), and carried unanimously.

The following were elected vice-presidents: Messrs. Chas. Parsons, F. J. Harvey, Elder and Bloye.

Election of Officers.

On the motion of the Chairman, seconded by Mr. Elder, the Hon. Treasurer (Mr. W. B. Nelder) was unanimously re-elected, and his services were heartily acknowledged.

Mr. Bloye, in moving the re-election of Mr. J. Dunstan as hon. sec., said that few members could have thrown so much energy and ability into the work of the Association as had Mr. Dunstan, and they could not do better than re-elect him. He was thoroughly in touch with the work, which entailed a good deal of energy on ordinary occasions, but this year it would require more attention than usual.

The Chairman, in seconding, said that with Mr. Dunstan as hon. sec. the business of the Association would be in good hands. (Applause.)

Mr. Penhale (Holsworthy) supported the resolution, which was carried unanimously.

The Victoria Benevolent Fund.

The Hon. Sec., having returned thanks for his re-election, said he had received a communication asking them to support the Victoria Veterinary Benevolent Fund. Last year the Association contributed a donation of £5 5s., for which Mr. Barrett had written thanking them. He went on to point out that the members of the fund were anxious that the income from subscriptions should be assured, in order that cases in their profession might be relieved. Many donors had expressed a desire to become annual subscribers to the fund, and he should be glad if the Association would consider the importance of helping the cause in that way.

Mr. Dunstan said the question was whether they would contribute an annual subscription to the fund.

Mr. Bond did not think they would be able to afford it this year.

The communication was allowed to lie on the table.

The International Congress.

It was decided to describe towards the expenses of the coming International Congress on Tuberculosis at Baden-Baden.

The Next Meeting.

The Chairman said that according to the new rules

there were to be three meetings a year instead of two as hitherto.

Messrs. BLOYE and Bond advocated the holding of a meeting at Taunton in July.

Mr. ELDER moved that a meeting be held at Taunton in July. He pointed out that at a Taunton meeting, they would have the presence of several Bristol members of the Provisional Committee appointed to make arrangements for the reception of the National Association in the West. That would be an advantage, and they would be able to report progress.

Mr. DUNSTAN, in seconding, said that several Somerset men were members of the Provisional Committee, and a meeting in Taunton would extend the influence of the Association in that county.

The motion was carried unanimously.

NEW MEMBERS.

The following were elected by ballot as new members: Messrs. Pethick, Tiverton; W. M. Scott, Bridgwater; A. Marshall, Plymouth; Sturge, St. Thomas, Exeter; Dickson, Thorverton; Younge, St. Austell; and Stephens, Wadebridge.

ASSOCIATION FOR THE PREVENTION OF CONSUMPTION.

The HON. SEC. stated that he had received a communication from the Association for the Prevention of Consumption and other forms of Tuberculosis.

Mr. BLOYE, a member of the Executive Committee of the South Western Branch of the newly formed Association, explained that the organisation was composed chiefly of medical men, but it had also, and he thought very wisely, decided to seek the assistance of the veterinary profession. At the meeting of the Executive Committee held at Plymouth on the previous day, he was asked to bring the objects of the Association before the present meeting, and to urge the members of that veterinary association to impress upon their clients, as far as they were able, the advantages to be derived, first from reading what had been said in regard to the prevention of consumption, and, next, in adopting as far as possible the various methods of prevention advocated by the National Society. It was a great subject, and although it only appeared to them as somewhat of a side issue he thought it was one to which they should devote a great deal of attention from a humanitarian point of view. (Hear, hear.) They could do a great deal and were doing a great deal to suppress consumption, and by impressing on their clients the means of prevention they would be helping to promote the aims of the Association. (Hear, hear.)

The Hon. SECRETARY said he had been asked by the Secretary of the Association to get as many members of the Veterinary Association as possible to join. The subscription was only five shillings a-year.

In answer to Mr. Bond, Mr. BLOYE said the money was devoted to the dissemination, by means of literature, and lectures, of information on the subject.

The CHAIRMAN said this was a matter of importance to them. He noticed that on a previous day Mr. Chaplin received a deputation from the National Federation of Meat Traders' Association on the question of the inspection of meat compensation for confiscated animals, and the abolition of public slaughter-houses—matters which were intimately connected with the objects of the newly-formed society for the prevention of consumption Compensation, of course, largely referred to tuberculosis. Mr. Field, M.P., in introducing the deputation, called attention to the fact that even tramways' conductors, and almost every class but the right class, were appointed inspectors. By supporting this movement the veterinary profession would get a better chance of informing the public of the importance of appointing properly qualified men. Mr. Chaplin was in sympathy with uniformity of inspection. The Board of Trade were inducing the Local Government Board to issue communications to local authorities urging them to see that inspectorships were not given to Dick, Tom, and Harry, but to qualified men, presumably veterinary surgeons or medical men. (Hear, hear.)

Mr. DUNSTAN said that as a profession they were much interested in milk inspection, a subject which was closely connected with the prevention of consumption. The Plymouth secretary of the Association for the prevention of consumption stated that he would like veterinary surgeons to take more interest in the association so that more might be on the Executive Committee,

Several members signified their intention of joining.

THE NATIONAL CONFERENCE AT PLYMOUTH.

Mr. BOND stated that the dates selected for the visit of the National Veterinary Association to Plymouth were the 2nd, 3rd, and 4th August. Papers had been promised on "Spavin," "Milk fever," and "Tuberculosis." Professor Macqueen had promised to open a discussion on "Spavin," Professor McFadyean on "Tuberculosis;" Professors Dewar and Hobday on "The Surgery of the Uterus and Ovaries," and a gentleman had also promised to deal with the subject of "Milk-fever." The meeting bade fair to be very successful. The only question was the sinews of war.

The CHAIRMAN said two days would be devoted to business, and the third day to pleasure. He hoped that the local society would give the National society a thoroughly west country welcome. (Hear, hear.) The question was how much money would be required.

Mr. BLOYE suggested that a certain sum should be guaranteed, and that if any surplus should be left to the local association to administer as they might think best. The Mayor of Plymouth had promised help, and his worship would very likely grant them rooms for their meetings in the municipal buildings.

Mr. BOND moved that £25 be voted from the funds of the association to the reception fund.

Mr. HEATH seconded the motion, which was carried unanimously.

Mr. BLOYE said the general form of entertainment had been an excursion on the third day. The Executive Committee at Plymouth proposed that there should be a trip around the harbour, and a landing at some convenient point for refreshments.

Mr. PARSONS proposed that a circular be sent by the hon. sec. to members inviting subscriptions to the Reception Fund.

Mr. Heath seconded the motion, which was agreed to.

Several members at once started the list. The amount promised in the room, including the £25 voted by the association, amounted to £135.

BOVINE ACTINOMYCOSIS.

The Hon. Secretary then read a paper prepared by Mr. S. W. MORGAN SCOTT, of Bridgwater (who was unable to be present.

Mr. Chairman and Gentlemen,—Since Bollinger's description of the *causa causans* of actinomycosis, material derived from experimental study and practical observation has ever been accumulating—nay, more, a number of diseases, which in days gone by were defined as cancerous, or tuberculous in their origin, have now had their proper character displayed and their classification adjusted, the majority now being actinomycotic.

I know not that I am about to introduce much that is new to your notice, neither do I hope to give you details with which you are not already cognisant, but with a few disjointed thoughts, collected into readable form, I venture to trust the groundwork may be laid upon which to build a profitable discussion.

Definition.—A specific disease, which occurs chiefly in cattle, less frequently in horses, pigs. carnivora, and

man, and taking the form most frequently of circumscribed swellings. These swellings are characteristic of a chronic inflammation, which, when matured, discharge a creamy pus containing specific elements, *i.e.*, the actinomyces.

History.—Early medical history seems silent, for we find no comment upon this disease whatever until the year 1853, when Lebert published a paper on pus granulations, in which he observed yellowish grains which he found in certain suppurations which were evidently due to the presence of this parasite. It was, however, left to Bollinger and Hartz, in 1877, to define and isolate the actual cause.

Geographical Distribution.—I believe it is held by some practitioners that actinomycosis is to be found most frequently in arable districts, especially where a large quantity of barley and rye is grown; this assertion is contrary to my experience. I venture to opine that low-lying, flat, damp pasture lands, especially in those districts which are subject to flooding, form the most admirable nidus for the growth and multiplication of the specific element. In my own practice, I find on the high-lying arable farms the disease is practically unknown.

Localization.—Actinomycosis, as a disease, in some respects is very much like tuberculosis, but while the tendency of the latter is to generalize, the former is apt to localize, and that too, usually in the cutaneous and superficial structures; nevertheless, I believe cases of actinomycotic lesions have been found in the alimentary and respiratory systems. Never having diagnosed a case of general actinomycosis, suffices for me to confine my remarks to the circumscribed and local forms; these will be found in the region of the head and neck.

From notes, the collection of the last five years, I am enabled to arrange the situations as follows:—

Soft Structures.—Lingual (48),, Pharyngeal (11), Laryngeal (2), Parotideal (31), Buccal (13). Submaxillary (21).

Hard Structures.—Superior Maxillary (4), Inferior Maxillary (6).

It is interesting to note that in the human subject the regions of the body affected according to the statistics of Illich and Guddet give in the following order of frequency:—Head and neck. comprising the buccal cavity, 55 per cent.; lungs and thorax, 20 per cent.; abdomen, 20 per cent.; others, 5 per cent. It will be noted that in man the larger per centage of cases occur in the cephalic and cervical regions, and so also in bovines.

Etiology.—Among laymen generally, actinomycotic tumours assume a variety of names, each district possessing its own particular terms. Among the most common are garget, cancer, wens; in America, lumpy jaw (Osler); when affecting the tongue—tongue garget, wooden tongue, and in Germany (makro glossia). As has been previously stated, to Bollinger the credit is due, of discovering the real nature of actinomycosis bovis, but it was the biologist Hartz, who first described the fungus fully, the former explaining their pathogenic significance.

From a biological point of view the fungus is a typical streptothrix; it is both an anærobe, and a faculative ærobe, so that it proves itself very accommodating to artificial cultivation. It grows well on most media, agar agar, gelatine, blood serum, bouillon, potato etc. On gelatine stab cultures it forms a dull yellow growth at the entrance of the needle, the gelatine liquifies, and along the course of the stab yellow points form; on potatoes it grows with a yellowish-red colour. The growths when examined microscopically consist usually of short straight rods.

If a cover glass preparation is made of the discharge from a tumour, and examined under a low power, one will see the field studded with masses of small granulations, collected into the form of balls. In recent lesions the actinomyces presents itself in the form of a colony composed mainly of leptothrix threads, sometimes of a wavy shape, and often arranged in a radiate manner. Mixed up with these threads are a large number of small round elements, about the same diameter as the threads. In still older colonies a third element is found, the so-called clubs. These appear at the outer end when matured. In very old colonies nothing but clubs are found, giving the colony the appearance of a mulberry.

To stain the organism Gram's method is the best, the stain is easily taken up, but it is just as easily got rid of again, so that care must be taken not to decolourise too much. Picrocarmine makes a nice contrast stain, the threads being stained blue by Gram's and the clubs red by carmine.

Mode of Infection.—Johne and others have found the fungus on vegetable matter, and that ingestion is the most common method of infection no one will deny, in fact, it is probable that there is no such thing as infection by inhalation. I believe also it is quite possible to have cutaneous infection, and will detail a case later to prove it. Nevertheless ingestion seems the most common mode of infection. For descriptive purposes the entrance of the fungus may be divided into two heads: (*a*) mediate or direct, (*b*) intermediate or indirect infection. By mediate infection we find the tongue, larynx, and pharynx affected; by intermediate we have parotideal, buccal, submaxillary lymphatic, submaxillary osseous (superior and inferior) infection. Parotideal infection appears to me to possess more than a passing interest, and I would like here to ask the question—Does the gland become affected by the fungus finding its way up Stenson's duct, or does it burrow through the adjacent structures from the pharynx? I have noticed that the lower third of the gland is the most common seat for tumour formation, just about the position where the duct leaves it. That it is possible for the fungus to gain access to the duct no one can deny, but one would be pardoned if one expected a certain amount of irritation to be set up, with probable tumefaction and destruction of the canal; such a condition, or anything approaching it, I have never seen. Moreover, all those cases of parotideal actinomycosis I have seen might be defined as primary, occurring as they do independent of any other actinomycotic lesions, nor has there been any indication whatever of pre-existing actinomycosis. Should the actinomyces find its way through the pharyngeal wall one would also expect the lower third of the gland to be affected, and it would be also reasonable to expect hypertrophy of the wall, if not ulceration of the mucosae, a condition it has not been my lot to come across, often as I have looked for it. Gentlemen, these are points I should esteem your opinions on.

As for buccal actinomycosis, I am satisfied the open mouths of the gland duct form an all-sufficient portal for the parasites entrance.

Submaxillary lymphatic actinomycosis has, in my experience, always taken place consequent upon secondary infection; lingual or pharyngeal infection being the primary foci.

Actinomycosis of the superior and inferior maxillary bones takes place through the fungus gaining entrance to the bone by a caried tooth or diseased alœolus.

Pathology.—So far as lingual actinomycosis is concerned little need be said, the condition being so familiar to all, save, perhaps, that yellow-coloured nodules form in the submucosæ. These vary from the size of a small pea to that of a bean. As the disease advances ulcerations take place which show no tendency to heal, but rather to spread, both by continuity and contiguity. The edges of the ulcers are slightly crenated, the ulcers themselves presenting a velvety appearance. And lastly, in advanced cases the parenchyma may become infiltrated, the result of a chronic inflammation, connec-

tive tissue is deposited between and around the muscular fibrillæ. The tongue becomes enlarged and hardened constituting so-called wooden tongue (Makroglossia).

When the disease shows itself in the form of tumefaction, as, for example, in the parotid, buccal or submaxillary regions, a modified state of affairs is noticed. Consequent upon the entrance of the actinomyces a certain amount of irritation is set up at the seat of localisation; the tissue becomes infiltrated, and at this stage if a section is hardened, cut, and examined microscopically, in the centre one will note one or more multinucleated giant cells, or some granular debris surrounded by giant cells. There may also be present in the centre large nucleated or granular protoplasmic, and epitheloid cells. Outside these again, but with no definite internal or external line of demarkation, lymphoid elements. The lymphoid cells are usually contained in the meshes of a more or less fibrillated reticulum. The inflamed swelling, which has at this stage reached by no means a decided contour, becomes more circumscribed, and should it be removed about this period and sectioned, it will show the characteristic of an ordinary fibroid to the naked eye. As, however, it reaches maturity the centre breaks down, suppuration and peptonisation takes place, a so-called cold abscess forming. The progress of suppuration is a question of some time, depending largely upon the amount of resistance offered by the newly-formed ring of cicatricial tissue, also upon the vitality and activity of the actinomyces. The wall of the cavity thus formed is lined by a layer of pale purplish granulation tissue, which is only slightly vascular. If these granulations are examined microscopically they will be seen to consist of grains varying from the size of 0·1 to 1 m.m. These are characteristic of an actinomycotic tumour. I am not aware that any distinct vascular system has been found in this new ring of tissue, the nourishment coming from adjoining capillaries, and it is owing to the low vascularity that one finds the tissue more or less cynotic. When the abscess approaches maturation the wall thins, and in due course points and bursts either internally or externally. The discharge consists of a thick creamy pus. The pus is very adhesive, of a pale yellowish colour, and would be defined by the older pathologists as "laudable."

In those cases where the bones of the jaw are affected the disease, if it does not take on a more rapid course, is certainly accompanied with more pain, being largely accounted for by the fact that the periosteum is greatly involved. Alveolar periostitis takes place first. A fibrinous product is thrown out which causes considerable swelling, and superficial caries may take place. A round-celled infiltration forms, the cancellous plates are eaten through, forming larger spaces. This infiltrate may become slightly fibrinous constituting progressive osteitis which may be, and often is, followed by ulcerated osteitis or caries. The tissue breaks down, sequestrums are formed, cloacæ result through which the sanguino-purulent material is discharged. When examined microscopically and unstained the grains just mentioned consist of round or uneven masses having a finely granular appearance. Under a microscope with a high power, and the specimen stained by Gram's method, the organism will be seen to consist of a close network of threads or filaments, arranged in an irregular fashion. Scattered through these meshes will be found centrally a varying number of cocci and peripherally radiating pyriform elements, which swell out at their distal extremities constituting the so-called clubs. These are either single or branching. This is the most constant form the organism takes, other varieties have been noted which have been described by various observers.

Symptoms and course.—Where the dorsum linguas is affected, dribbling of saliva is the most constant and most attractive symptom. The submaxillary region is usually swollen and œdematous, the skin hanging in a pendulous fashion. There will be more or less difficulty in mastication, and if the top of the tongue is affected, prehension of food will also be difficult. In the March number of *The Veterinarian* (1895) I recorded a number of cases of lingual actinomycosis. One of these showed the tip of the tongue badly ulcerated. It was quite interesting to watch this case prehend his food. He would catch it in an awkward fashion, tilt his nose upwards, and in so doing throw the bolus on to the back part of the dorsum linguæ and so escaping the diseased part. The animal usually shows all the symptoms of inanition, and in advanced stages loss of appetite. On examination the tongue is found to be studded with nodular elevations, hard in consistence, and yellow in appearance. There may be one or many patches of ulceration, a description of which I have already given. I may here say it is no uncommon thing to find the palatal mucosæ ulcerated, the infection spreading from the dorsum linguæ by contiguity. These should be carefully noted and not overlooked when the tongue is undergoing treatment. Should the tongue be very much diseased, the parenchyma becomes disorganised, the result of a productive inflammation, constituting so-called wooden tongue. Great difficulty in swallowing is now made manifest, and if the root is much diseased respiration becomes noisy (whistling or gurgling).

Treatment—Therapeutical.—The selection of drugs to combat disease has been, and ever shall be, a thing of fashion. To-day, we fondle and caress in a laudatory manner a certain drug, with unmingled feelings of satisfaction, as if our whole professional reputation depended on its early use and continued application; to-morrow, our faith is shaken; its specific infallibility is gone, and we are helplessly left destitute, condemning medicine as a huge farce. In therapeutics there are few who admit of specifics while others deny their existence *in toto*. But in the whole range of medicinal agents if there is such a thing as a specific to be found, such an agent is potassium iodide. At any rate this drug seems to exert a specific action upon the actinomyces. Rocard, in 1885, recommended the administration of potassium iodide in the treatment of actinomycosis Bovis, and now that drug stands in an almost unique position for its therapeutical value.

Dosage.—I am quite at one with those who advocate small doses in preference to large ones. The absorbing elements of the system can only take up a given quantity of nourishment in the shape of food, and so with medicine. If the salts of potassium are administered in large doses, nature will use up in her metabolism what she can, the remainder will be excreted and lost to the system. Speaking broadly, I usually give in cattle practice ʒss. doses night and morning. Like a great many other drugs, the *modus operandi* of potassium iodide is but imperfectly understood, we know, however, that it is quickly absorbed into the tissues, undergoes decomposition, iodine being liberated, which apparently combines with albuminoids acting specially upon the lymphatic glands and vessels, hastening metabolism and promoting absorption. Add to these, the easy excretion of the drug through the eliminative organs, *i.e.*, the saliva (if one can call it such), the kidneys and the skin; and one can readily see how the drug comes to act upon the actinomyces, and especially in the lingual form Iodine also seems to possess great power of diffusion, and, in from five to twelve hours after administration, it can be found in the various excreta. In urine I have repeatedly detected it by the following test: Add a few drops of yellow nitric acid or a very weak solution of chlorine water to the urine desired to be tested. Shake well and then add a solution of starch when the liquid will assume an intense purple colour. The same results can be obtained if a piece of starched calico is dipped into the liquid. When a solution of chlorine is used the

tester must be careful not to use it too strong, as the iodine which is liberated by the solution may combine with the chlorine and form chloride of iodine.

After death the iodine has been found in the blood, urine, brain, spinal cord, most internal organs, and even in bones and muscle (Cogswell), I may say *en passant*, I give the drug along with ℥7 doses of sodium chloride, this salt assisting in the liberation of iodine ; and that when possible, I restrict the animals' diet, evading, as much as possible, starchy food.

Another drug which has gained considerable favour of late years, and has largely taken the place of potassium iodide is the higher iodide of mercury. I have treated in all, something like thirty cases, the majority being of the lingual form, and from results obtained, I opine it is quite as efficacious as the potassium salt. If my memory does not fail me, it was Professor Hob day who directed the profession's attention to this drug, and as a matter of fact I seldom use iodide of potassium now, the former drug being considerably cheaper. I usually begin with grs. v. doses once daily, also combined with sodium chloride, gradually increasing to vii. or viii. grains. In one case I pushed the drug as far as to produce a hypertrophic congestion of the lymphatic glands in the inside of the hind legs and also along the neck. That animal, a two-year-old steer, received, in all, 136 grains in 21 days. The drug also seems to produce in some cases, where it is followed up, depilation and scurvyness of the skin. I have also noted after it is discontinued, cattle do remarkably well, laying on condition fast.

To sum up the merits of these two drugs, I consider the mercurial iodide quite as efficacious as the potassium salt, but neither in themselves is capable of completely destroying the actinomyces when once they are fully established in the tissues. I believe, however, that these preparations check the growth of the fungus, and I also believe, in moderate cases, if they were persevered with for a long period, that complete recovery may eventually follow. But I am afraid that in the majority of cases the patience of our clients would be too severely tasked to warrant the practitioner following up this line of treatment alone. Incomplete, therefore, as this course of treatment is, by itself, yet, combined with local application when practicable, one may expect a good percentage of recoveries. My remarks now particularly apply to lingual actinomycosis, and I may at once remark, that where the tongue is the seat of the disease I put a great deal of dependence upon local application and how it is applied. The mouth having been previously freed of all food material, I grasp the tip of the tongue with the left hand, on which I put an old glove—this gives one a better hold, and prevents the tongue from slipping—I seldom, or never use a mouth gag. Should the organ be at all indurated, or the nodules pronounced. I make it a practice to scarify deeply, after which the tongue is set free, care being taken to allow some time to elapse before applying the dressing ; in short, till all the hæmorrhage has ceased. The dressing I apply once daily, using considerable friction with a spar, on one end of which there is wound round a piece of tow ; this end is dipped in the lotion and well rubbed into the diseased parts. The lotion used is after the following formula :—

℞ Iodine ℥7.
Pot : Iodid ℥ss.
Spt : Vini : Meth : ℥7.

I think it is an item of considerable importance that the lotion should be strong ; in fact, the strength of the lotion and method of application form the surest criterions for success in these cases. Although the removal of actinomycotic tumours more properly comes under surgical treatment, yet in some instances local medical preparations are sometimes employed in the form of caustics, of which each practitioner employs his own particular favourite. These escharotics are applied to the swellings with friction, and by their caustic effect cause the whole tumour to slough out ; the wound eventually healing by cicatrisation. The principle, however, to say the least, is barbaric ; nevertheless, the results, one must admit prove by no means unsatisfactory.

Surgical Interference.—Where the actinomyces locate themselves in the subcutaneous tissues, for, as we have already noted, their pathological significance is asserted sometimes in the form of circumscribed swellings, which may obtain considerable size, it is obvious that therapeutics can avail but little in their removal. We must therefore look to surgery to afford relief. It is a well-known fact that actinomycotic tumours take a long time to reach maturition, but should the practitioner be called in when the growth has reached maturity, the treatment is very simple. The swelling is lanced at its softest and most dependant part, the contents evacuated, the cavity irrigated with an antiseptic, after which it is plugged with cotton wool, saturated in tinct. of iodine and left in for a few days. Little further trouble is usually given. The cavity filling with granulations, the resulting enlargement usually disappearing in time. When the veterinary surgeon is called in to see a growth which is hard and schirrous to the touch, and the owner desires its removal, considerably more trouble awaits the attendant. The animal must be fasted over-night preparatory for being cast next day. Should the tumour be situated in the parotideal or buccal region the patient is cast on the opposite side to the one affected. I may mention that in throwing cattle I don't use a sideline, which I believe is the usual practice, but simply a long thin plough rein. The animal is placed in an open yard, a pair of bull dogs put in the nose, and held by an assistant ; one end of the rope is fixed round the roots of the horns and brought down the right side of the neck to behind the shoulder blade ; there it forms a right angle, the rope being placed round the chest and is looped into the above named angle. The rope is then continued backward for about 15 to 18 inches, thrown over the back again, brought up under the abdomen, and again looped in the angle already made. This process is repeated once more, the loop this time grasping the abdomen just in front of the mammæ. The end of the rope is now pulled, and by reason of which the head is drawn to the left side, the hoops (so-called) are are tightened, and with a feeling of compression the animal lies down quietly. The head is secured by an assistant, the fore legs tied with slips and bent at the knee, the hind legs pulled up to the abdomen and tied to the middle loop. The patient firmly secured in a recumbent position the skin at the seat of operation is cleaned and made aseptic, the hair cut or shaved. I usually inject a solution of cocaine under the skin before operating. When possible care is taken to make the skin incision a vertical one, so that a stitch can be left undone to admit of drainage. A good sized incision made, the tumour is now dissected out. This is a process which requires a good amount of patience and anatomical precision, for, as a rule, important vessels are to be found in the region of the tumours. In the buccal region the submaxillary vessels are to be borne in mind and in the region of the parotid the vital branches of the jugular vein. In the former case the tumour, in my experience, is invariably situated under the submaxillary vessels, in fact the tendency of the growth is to push the vessels in an upward direction.

I remember operating on a shorthorn cow with a buccal tumour which weighed 13½lbs., and, through carelessness on my part, I cut the submaxillary vein. Pressure was applied to check the hæmorrhage, the tumour removed with great difficulty and the cavity plugged with surgeons lint, and the wound sutured. In 24 hours' time the part had swollen to the size of two melons. On the fourth day the sutures were undone,

the lint removed and the wound re-sutured. In a short time the wound had healed and the animal did well afterwards.

After the skin has been incised the edges are pulled apart with retractors, and the tumour carefully dissected. I find a blunt-pointed semi-curved pair of scissors very useful in dissecting the growth, for by using them hæmorrhage is diminished, and the danger of opening a vital vessel, should the animal struggle, minimised.

The tumour is, as a rule, easy to remove ; in fact, one usually can enucleate it, except perhaps at its root where it seems more adherent. It is very essential to note that care must be taken not to cut or puncture the tumour in removing it and allow the infective material, which is invariably found in the centre, to escape. In one case I had the misfortune to cut the tumour, while attempting to steer clear of a vital vein, with the result that in two months time I had to deal with another tumour in the same situation, but this case proved instructive, inasmuch as it showed there is such a thing as local infection in actinomycosis.

The tumour removed, after treatment is very simple, and I have had no untoward results following any case I have operated on. If in the region of the jaws I order all food to be withheld for 24 hours, and then kept on sloppy food for three or more days. Care must also be taken not to tie an animal up with a neck chain for some time.

In those cases where the bony structures become invaded, hopes for recovery are very remote indeed, surgical interference being of little avail unless seen early. I usually suggest the application of a strong caustic, and saturate the system with hydrargum biniodide. Under such a course the growth will not disappear, but if started early I have been successful in keeping the disease in check. Having operated on only one case in which the lower jaw was the seat of disease, I feel I can express myself very freely ; suffice it, therefore, for me to say the animal was cast, the skin incised, and the growth laid bare and scraped bodily away, and the wound dressed with iodoform and iodine once daily for a week, after which an ordinary antiseptic was used and the wound healed without further trouble. About three weeks ago I had a look at the subject and find the jaw is beginning to enlarge at the same place again. It is about 15 months since the operation was done.

Preventative Measures.—Incomplete as this paper is, the writer who failed to make a remark upon the prevention of actinomycosis would be guilty of an oversight, which, to say the least, would be unpardonable. In those cases where the tongue is the seat of disease the animal must be isolated, the dribbling saliva contaminating fodder and pastures. Where tumefaction is the order of things, no danger of infection takes place until the tumour bursts, at which time the patient should also be isolated. All diseased pasture lands should be top-dressed with salt, lime (gas), nitrate of soda, and, when possible, cultivated. All damp pastures should be drained.

In bringing my remarks to a close I cannot but express myself as being fully alive to the fact that this paper is full of imperfections while wanting in completeness, but I feel assured you will accord me your leniency when I state the routine of a busy practice tyranically scorns the idea of a quiet retreat, the essential of deep thought and sound study, and the foster parent of a successful paper.

Gentlemen, I thank you for your patient and courteous hearing.

Mr. R. PENHALE (Tollington) handed round the jaw of a bull, about one and a-half years old, which, he pointed, suffered from the disease in a manner such as made it extremely difficult to operate. He had the animal killed.

Mr. HEATH said they were very much indebted to Mr. Scott for the valuable paper which he had written. There were districts where actinomycosis was frequently met with, and other places where it was not often seen. The district in which they met was not very fertile for actinomycosis. He, however, at present had four cows on one farm, one of which was affected in the jaw, and the other in the neighbourhood of the throat. The same farmer lost a cow last year. He had never had his animals treated before, as he thought they could not be cured of it. Of the four cows, two were now much better. In the animal that died last year, the man who opened it found four tumours of actinomycosis, all of which had discharged, two between the pharynx and the stomach. Four tumours had formed in that part, and two of them had burst into the canal, and that was the cause of the animal's death. Veterinary surgeons had successfully treated this disease since they had known of the iodide treatment. Only a few months ago he used biniodide of mercury and iodide of potassium in combination, and brought about a successful recovery. Mr. Scott seemed to have had a good deal of experience in his district of this disease, and he (the speaker) should be inclined to follow his system in excising these tumours. He did not know any better plan than that which Mr. Scott had adopted, and he could bear testimony to its excellence.

Mr. BOND said he had had a good many cases of the disease in cattle, and he adopted the system referred to, giving iodide of potassium and biniodide of mercury. The latter was better as it was rather cheaper. He had a case the other day of a heifer which had an immense swollen head, almost double its normal size, due to actinomycosis, and he prescribed five grains twice daily of biniodide dissolved by means of a little iodide of potassium. After a fortnight's treatment the head got back to its normal size. Soon after he heard the animal was dead. It died suddenly. Having become, it seemed, intoxicated and stupefied, the treatment was stopped. He supposed it was a case of poisoning. As far as his experience went, it seemed that biniodide treatment was quite equal to iodide of potassium. He had a case he remembered where the nasal chamber was affected. Still some lesions, though differently constituted, got alright under the same treatment.

The CHAIRMAN suggested that as Mr. Scott was not present it would be well to adjourn the discussion until the next meeting. His own experience was that it was not wise to trust to one remedy. If they found that iodide did not succeed, it was wise to change to biniodide. There was a great danger of poisoning animals with biniodide. With iodide this did not occur. He was interested in actinomycosis, because in his district there had been a man with the disease who had been advised in London that iodide of potassium would not cure him, and yet he had been cured by iodide treatment.

The CHAIRMAN moved an adjournment of the discussion.

Mr. PENHALE (Torrington) seconded the motion, which was agreed to.

On the motion of Mr. Parsons, seconded by Mr. Elder, the Chairman was thanked for presiding.

On the motion of Mr. Bond, seconded by Mr. Penhale, (Holsworthy) Mr. Scott was heartily thanked for his paper.

Mr. JAMES M. STIRLING, M.R.C.V.S., Glentirrin House, Kippen, N.B., obtained, by examination, the "Inspector's" certificate of the Sanitary Institute of London. Mr. Stirling was a pupil of Mr. Robt. Mushens, Sunderland.

Mr. HENRY THOMPSON, V.S., Aspatria, has been appointed veterinary editor of *The North British Agriculturist.*

ARMY VETERINARY DEPARTMENT.

From *The London Gazette*:

WAR OFFICE, PALL MALL, March 21.

Vet.-Capt. J. T. Dibben to be Vet.-Major.

Vet.-Lieut. R. H. Holmes has been granted an extension of leave from India to 30th June next.

Vet.-Lieut. W. D. Smith arrived from Egypt, 18th inst., having completed tour of service in that country, and will be posted to the 15th Hussars, Shorncliffe, for duty.

Vet.-Lieut. F. D. Hunt arrived from India on six months' leave of absence.

TUBERCULOSIS IN MEAT.

At the Local Government Board, on March 15th, Mr. Chaplain and Mr. Walter Long (who were accompanied by Mr. T. W. Russell, M.P., Mr. S. B. Provis, C.B., and Sir Richard Thorne, of the Local Government Board; and Mr. T. H. Elliott. C.B., Sir Jacob Wilson, Major Tennant, Mr. A. C. Cope, and Mr. F. A. Fulford, of the Agricultural Department), received a numerous deputation, representing the National Federation of Meat Traders and a large number of agricultural societies, in reference to the treatment of tuberculous meat. The deputation was introduced by Mr. W. Field, M.P., and was accompanied by several members of Parliament, including Mr. Gladstone, Sir Howard Vincent, Colonel Blundell, Sir Elliott Lees, Sir John Leng, Sir James Ferguson, Col. Royds, Sir F. Mappin, Mr. Arnold, Captain Greville, Mr. Baird, Mr. J. L. Wharton, Sir James Woodhouse, Mr. Yoxall, Mr. Guy Pym, Mr. Wanklyn, Mr. Billson, Mr. Ernest Flower, Mr. D'Arcy Wyvill, and the Hon. H. J. Tollemache.

Mr. FIELD said the deputation represented 83 branches of the federation and 30 agricultural societies. It had been called a deputation, but from its large numbers it looked like a demonstration. Briefly stated, they wanted compensation for the confiscation of all animals which had been taken in the interests of the public health. They objected very strongly to the present power of the magistrates to imprison without fine in a case where the butcher bought in good faith an animal that was apparently sound. Another objection was that exactly the men who knew nothing about meat were appointed inspectors—such as policemen, tramway conductors, gardeners, and carpenters. Then there was no uniformity of inspection. They were opposed to insurance, as they thought that a trade carried on in good faith ought not to be penalized in that way. They also strongly protested against the abolition of private slaughterhouses, which would mean largely throwing the trade into the hands of foreign importers.

Mr. RAMSDEN (Liverpool), Mr. LAMBERT (York), Mr. PEARSON (Sheffield), Mr. MILLS (Nottingham), Mr. HUTCHINSON (the Scottish Chamber of Commerce), and Mr. COGGIN (London) also spoke.

Mr. CHAPLIN, in reply, said that naturally the Local Government Board and the Board of Agriculture approached the question from different points of view. It was only after the living animal had become converted into meat and was confiscated as unwholesome that the question came within the purview of the Local Government Board. As regarded uniformity of inspection, he was entirely in accord with the deputation; but with regard to compensation he thought they had very weighty authorities against them. The majority report of the Commission was against compensation, on the ground that the risk of tuberculosis was fully recognised in the trade, and some of their witnesses had admitted that it could not fail to affect the price. the Commissioners went on to say that, not withstanding numerous requests to be supplied with evidence as to actual cases of substantial loss through seizure of tuberculous carcases, nearly all the witnesses could only tell them at most of one, two, or three such seizures during long periods of business. It was true that there was a minority report in favour of compensation; but that was to be contingent entirely upon a regular and determined effort being made for the elimination of the disease throughout the whole of the country. He was strongly of opinion, and he believed that was Mr. Long's view, also that science was not at present sufficiently advanced upon the subject to justify them in making an experiment involving an expenditure of hundreds and thousands of pounds. He was sorry to hear from Mr. Field that they were entirely opposed to insurance. He thought it the wisest policy to adopt at the present time. He had been assured that a system of that sort had already been established at Grimsby. The Local Government Board had recently issued a circular to local anthorities giving instructions for the assistance of inspectors so that carcases otherwise healthy should not be condemned, and only those parts containing tuberculous lesions should be seized. The Board had also urged that properly qualified persons should be appointed as meat inspectors, and they had pointed out the directions in which these officers ought to be qualified. But he had not the power to grant compensation, and he fully believed that with proper inspection it would be wholly unnecessary. He had not thought it to be his duty up to the present time to take any action in regard to private slaughterhouses, and he would consider carefully what the deputation had said upon the question. The Board recommended that seizure should ensue in every case of foreign dead meat where the pleura of the animal had been stripped. That, he hoped, would be a considerable safeguard against the introduction of dangerously tuberculosed animals into this country in competition with our own. The Board had also altered the existing Milk Order to meet a difficulty which had been pointed out by the Royal Commission. It was abundantly shown that the omission of tuberculosis from the Contagious Diseases (Animals) Act, 1878, had precluded local authorities from any attempt to deal with tuberculosis in milch cows, although they were alive to the danger and anxious to provide a remedy.

Mr. FIELD, M.P., having thanked Mr. Chaplin and Mr. Long, the deputation withdrew.

A Congress on Tuberculosis is to be held at Berlin, May 24-27, under the patronage of the German Empress, and under the honorary presidency of the Imperial Chancellor, Prince Hohenlohe. The subjects of discussion will be: (1) Spread of the Disease, to be introduced by Dr. Köhler, director of the Imperial Health Office, and Dr. Krieger, chief of the Medical Department of Alsace-Lorraine; (2) Etiology, by Prof. Koch and Prof. Frankel; (3) Prophylaxis, by Professor Gerhardt and Dr. Schjerning, of the Medical Department of the War Office; (4) Treatment, by Prof. Ziemssen, of Munich, and Prof. von Schrötter, of Vienna; and (5) Sanatoria, by Dr. Dettweiler of Falkenstein, and Dr. Gaebel, director of the Imperial Insurance Office.

CORRESPONDENCE

RABIES IN WILD ANIMALS.

SIR,

Is it a fact that *wild* animals suffer from rabies? In Rudyard Kipling's "Jungle Book" page 3, I notice: "We call it hydrophobia, but they call it dewanee—the madness—and run."—Yours faithfully,

ANTI-MUZZLE.

[Wolves, and some other wild animals have been seen -rabid—ED.]

THE GRIEVANCES OF THE VETERINARY PROFESSION.

Sir,

Mr. Fraser's admirable letter approving of Major Nunn's scheme in your last issue, tempts me to lay before your readers a suggestion which, if acted upon, might bring redress of the grievances complained of. It may be a considerable time before a contest takes place in a suitable constituency to put the Major's scheme in force, and in the meantime it appears advisable to have an executive committee appointed to decide upon a course of action, which undoubtedly must be Parliamentary.

Few members of our profession understand the rules and regulations of the House, and it would be unfair to ask any of them to devote their time and attention attending the House, therefore let us secure the services for one or two years of a competent gentleman—barrister or solicitor—who understands something of Parliamentary duties, to act as our agent there, putting our grievances before Members and securing their support. The salary would be a small matter compared with results, and the amount to be subscribed by each member willing to take part in the movement would not be more than a few shillings annually.

This course would have the further advantage of bringing the members of the profession into line, and it would then be possible to find out who were furthering or retarding our interests.

Hoping a practical move will be made at once, yours truly,

"FACTA NON VERBA."

THE APPROACHING ELECTION.

Sir,

Now is the time for the veterinary profession to put down a firm foot and see that no member posing as a candidate for election to Council be returned unless prepared to fight against "the employment by veterinary surgeons of unqualified men as assistants." Council have pinned the qualified veterinary surgeon down over the "advertising question," and now I think it is due time some of the Councilmen and those who employ these unqualified persons as assistants, should be hobbled. Our Council and many leading lights of the profession are continually expounding on the "elevation" of our dignified position, and yet they close their eyes to this disgraceful state of affairs, which allows of the bread being taken from those who have spent much time, labour and money in gaining the coveted license to practice the art of veterinary surgery and medicine.

Why be behind our sister profession in this point of law! for it is such. I will say no more but leave it to one more able than I to arouse the "whole profession" to action, and then may all be crowned by "success" is the earnest desire of

"VIGILANT."

A GUARDED RAZOR.

Sir,

Prof. Hobday's neurectomy instrument case which is described on page 555 of *The Veterinary Record* for March 18th, 1899. appears to be very complete and compact, but there is one small matter that I would ask his permission to give a hint on. I always shave the site of an operation if possible, but with the greatest care I have more than once injured the skin and caused an annoying flow of blood, and when as sometimes happens one is obliged to depute this preliminary to a groom, my experience is that a cut or scarified skin is the rule—not the exception. To avoid this mishap I now use a guarded razor. These guards are sold by most hairdressers and slip on to the blade of an ordinary razor, rendering it impossible to cut the skin. Another form of guarded razor used for shaving at sea when a ship is rolling is made. It has a very short blade about two inches long, that slips into a fixed guard, which has a handle in the middle that projects at right angles. It is used by drawing it in a scraping fashion down the face. Two or more blades are sold with this razor, and they screw into a handle like the knife of a Cathcart's microtome to allow of their being set on the hone. I have used this razor frequently to shave horses' skin and find it answers almost better than that of the ordinary pattern, especially where there are ridges and depressions in the skin caused by tendons projecting as in the case in neurectomy.

JOSHUA A. NUNN, F.R.C.V.S., C.I.E., D.S.O.
Vet.-Major, A.V.D.
Junior United Service Club, London.
March 21st, 1899.

ADVERTISEMENTS, ETC.

Sir,

In your issue of March 18th, I notice in a letter by "Anti-Quack" the following: "*Professor Pritchard's* opinion is that *Jesse Winfield's* embrocation and drinks cannot be improved on for the ailments specified. Surely the learned Professor is not responsible for this."

Mr. Winfield has no justification whatever for using my name, in fact, beyond having seen a bottle of liniment, I know nothing about that or the drinks.

I am writing a similar letter to the Editor of *The Stable and Kennel.*

WM. PRITCHARD.

SOME REFORMS REQUIRED IN THE VETERINARY PROFESSION.

Sir,

It was with much interest I read the letter in your last issue on this subject.

I quite agree with "Progressive" as to the need of legislation to prevent those practices such as horse-dealing etc., which some of our members are guilty of, and which undoubtedly degrade our profession in the eyes of the public. Horse-couping is certainly the worst of all as there is so much trickery in it.

It is a well-known fact that a few members of our profession take a practice in a town, do as much horse-couping as they can, rake as much money together as is possible, and when the game is up and they are properly found out, fresh pastures are sought for, where once more the wheel of fortune can be turned. A gentleman (?) of this class arrived a year or two ago in my district with a flourish of trumpets, and one of his horse-couping transactions is well worthy of illustration, merely to show what utter depths of degradation our belated profession is dragged to. The horse-couping affair was as follows: A lady client of mine had a horse that misbehaved, and by some means or other (probably through hob-nobbing with the coachman) the animal was sent to the horse-couping veterinary surgeon to be sold. The very first thing he did was to show the horse to a client of his own not 200 yards from the place the horse was sent from, and, please note, for misconduct.

However, the deal was not successful, nor was the horse sold in the neighbourhood, but was eventually sent to the hammer in London at the instigation of the veterinary horse-couper. Now for the grand finale. By this time there was a real live horse dealer in the swim, who was to do the buying at the sale, whilst the professional gentleman was to play the part of giving the animal a bad character, and whatever profit could be made was to be equally divided between the veterinary surgeon (?) and the horse-dealer.

One other illustration. A gentlemen in this neighbourhood wanted a carriage horse. The veterinary

horse-couper had one that might do, which he sends to a jobmaster to show the gentleman. The veterinary horse-dealer is sent for to examine his own horse, the buyer, of course, being ignorant of all this. It was truly a case of "Where ignorance is bliss 'tis folly to be wise."

Profession indeed! Gentlemen! Veterinary art! Artfulness would be more applicable.

It is more than time that such practices as the above should be looked into and stopped, and then as Progressive says, "there would be a living for us all." I am yours, &c.,

OBSERVER.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Messrs. F. H. Gibbings, W. H. Flook, G. E. Gibson, J. W. Conchie, G. Mayall, E. Kellett, J. Bishop, P. Snaith, J. Bell, Prof. Pritchard, Major Nunn. "Embryo," "Yorkshire Practitioner." "Facta non verba." H.B.

Reports 1887-89, *Vety. Division New Zealand Dept. of Agric. Journal of Comp. Med. and Vety. Archives* (Phila.), *Mackey's Vety. Diary.*

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